Consumer Concerns Elicit Policy Changes

Issues relating to the safety and quality of food, as well as issues related to the way that food is produced, are leading to policy changes in the EU that have implications for agricultural production and trade. Consumer concerns and the policy changes they are bringing about also promise to complicate the outcome of policy reforms brought about by market pressures.
[Lorraine Mitchell (lmitchel@econ.ag.gov) and Mary Anne Normile (mnormile@econ.ag.gov)]

EU consumer concerns about the quality and safety of their food have been documented repeatedly in consumer surveys (table 17), and encompass such diverse issues as pathogens, pesticides, biotechnology, and animal welfare. Consumer preferences in this area generally fall into two categories: concerns about food safety and quality, and concerns about the methods of food production. This article does not attempt to determine whether the consumer concerns are valid, but rather looks at the reasons for them and the ways in which they are effecting EU policy changes, which in turn have implications for trade.

Table 17--Consumer survey results on food safety issues

Issue	Percentage
Consumers who listed food safety as a consumer safety concern	68
Consumers who said absence of pesticides is an indicator of food safety	54
Consumers who said absence of hormones is an indicator of food safety	56
Consumers who said the term "organic" should apply to foods grown without chemical pesticides	81
Consumers who said food from crops produced with biotechnology should be labeled	86
Consumers who would like a "GM-free" label	77

Source: Eurobarometre 49.

Reasons for Consumer Concerns

Product Concerns

Consumer concerns regarding food safety can be traced to recent microbial or disease outbreaks, including of salmonella, listeria,[11] and, most importantly, Bovine Spongiform Encephalopathy (BSE), or "Mad Cow Disease." Whether concerns for the safety of the food supply are justified, EU consumers have changed their consumption behavior in response to these outbreaks. Poultry and egg consumption declined following the early 1990s salmonella outbreak (*Western Europe Agriculture and Trade Report,* 1990). Beef consumption in the EU fell immediately following the BSE scare and has not recovered to the pre-crisis trend level. Consumer surveys have reported that some consumers are responding to the BSE scare by eliminating or reducing beef from their diets, and others found that consumers had low confidence in the safety of fresh meat (Demoskopie Allensbach, 1996; Gallup, 1996; Eurobarometre 49, 1998). Beef's share of EU consumer expenditures is projected to remain depressed due to concerns about BSE (Burton and Young, 1996). The protracted decline in beef consumption has contributed to beef surpluses that create pressures for beef policy reform.

In addition to disease outbreaks, European consumers worry about external contaminants like pesticide residues (see table 17). Europe uses substantial amounts of pesticides and other plant protection products in its intensive conventional agriculture. Pesticide application rates (measured by kilograms of active ingredient per hectare) are higher in the EU than in the United States. Consumer concerns regarding pesticide contamination may be contributing to increased sales of organic produce. Growth in sales of organic products in the EU has averaged between 25 and 30 percent per year in the mid-1990s (table 18). This is comparable to the United States, where the average annual growth rate in organic sales has been 24 percent during the 1990s (Thompson, 1998). The EU Consumer Committee[12] and the Transatlantic Consumer Dialogue[13] have expressed concern about the use of antibiotics in animal feed, as a medical journal has suggested a link between this use and the growing number of antibiotic resistant strains of bacteria (Consumer Committee comments, 12/8/98, New England Journal of Medicine, 1999). A recent food quality control scare occurred in Belgium, where an animal feed manufacturer sold feed that was contaminated with dioxin. Almost all animal products had to be removed from the shelves in Belgium, and cabinet-level resignations occurred (London Independent, 6/9/99).

[11] Listeria monocytogenes is a bacterium found mainly in meat and unpasteurized milk and milk products that can cause illness or death in humans (Buzby et al, 1996).

[12] A consultative committee to the European Commission. It comprises representatives of Europe-wide, national and regional consumer organizations.

[13] The Transatlantic Consumer Dialogue (TACD) is a forum of 60 U.S. and EU consumer groups established in the context of the Transatlantic Economic Partnership to provide a formal mechanism for U.S. and EU consumer representatives to have input to bilateral political negotiations and agreements. The TACD develops joint consumer policy recommendations to the U.S. government and the European Union to promote the consumer interest in EU and U.S. policy making on transatlantic trade issues.

Table 18--Sales of organic products in the EU and selected member countries, various years

Country	Organic products share of total sales	Annual growth in organic sales
	Percent	
France	0.3	NA
U.K.	1	40
Austria	2	NA
Denmark	3-4	100
EU	NA	25-30

Sources: New Statesman, 1998; Thompson, 1998; FAS, 1998; London Independent. 3/99; Michelsen. 1996; Lohr. 1998.

Many consumers feel that the "absence of hormones" is an indicator of food safety (table 17), despite the fact that hormones occur naturally in many foods. In the late 1980s, beef consumption declined following discovery of DES (a carcinogenic growth promotant) in German calves and an outbreak of illness among consumers in Spain who ate meat illegally treated with concentrated injections of hormones (*Western Europe Agriculture and Trade Report*, 1990). The EU has responded to these episodes by banning the use of hormones in domestic livestock production and banning the import of meat from cattle treated with hormones in any way, even using controlled applications. The EU position has been that the growth hormones are unproven over the long term, and that more safety studies should be done. The ban has created a lengthy dispute between the EU and the United States, culminating in a recent ruling by a WTO panel that there is no scientific justification for the ban.

Consumers have also expressed concern about food crops that have been genetically engineered. Some have suggested the possibility that placing new genes in plants might result in unforeseen allergens or adverse health effects.[14] Scientists consider genetically engineered foods that are currently on the market to be safe for human consumption. Nonetheless, European consumers fear possible unknown risks. Opinion polls of the public's reaction to transgenic crops have yielded varying results, but public approval of biotech crops in the EU is on average lower than that indicated by similar polls in the United States (*Milling and Baking News*, 1997, *Washington Post*, 1999). In several EU countries, many supermarket chains and some large food processors have announced that they are eliminating biotech products from their in-house brands.

Some food industry officials have credited the concern over crops produced with biotechnology, in addition to the concern about pesticide residues, with increasing demand for organic food in Britain (London Independent, 3/8/99). Organic food still accounts for a very small percentage of the total food market (ranging from less than 1 percent to 4 percent of total sales for selected EU member countries), but that share is rising rapidly (table 18).

[14] Some consumers' concerns have centered around the environmental impacts of genetically modified crops, which will be discussed below.

Process Concerns

In addition to concerns related to the (real or perceived) safety and quality of food, some consumers and pressure groups have voiced concern over the methods of food production. Consumers are concerned with the effect of food production on the environment, animal welfare, and the perceived benefits of the rural way of life and other rural amenities.

Increasingly, purchasers want some assurance that their food is not being produced in ways that create social damage. Europeans express concerns about the effects of high EU pesticide use, fertilizer, and animal waste runoff into water supplies on wildlife and human health and life (EU Consumer Committee comments, 12/98). EU consumers also fear the possibility that genetically engineered plants could result in the spread of herbicide-resistant weeds (Official Journal of the European Communities, C 284, 9/14/98).

Consumers in Europe have become increasingly concerned about the conditions under which farm animals are held, and many laws have been enacted to improve animal welfare. Surveys have reported that consumers are willing to pay for the higher costs associated with some of these regulations (Gallup poll). In 1996, 51 percent of British consumers surveyed reported that they had bought free-range eggs or chickens in the previous 12 months (MORI poll). The EU has included addressing the animal welfare issue as one of its objectives in the next round of multilateral agricultural negotiations.

Some research indicates that Europeans are willing to pay to maintain their rural countryside, small farms, and small villages (Hackl and Pruckner, 1997). The persistence of the CAP, despite high budget costs and high food prices, may be a testament to consumers' acceptance of these burdens as a means of achieving their desired social outcomes.

EU Government Policies Related To Consumer Preferences

The aforementioned concerns have been exacerbated by EU consumers' lack of trust in government institutions. Public trust in European food safety institutions has been weakened by the UK government's handling of the BSE crisis, during which it gave unjustified assurances that the beef supply was safe, and the Belgian government's handling of the dioxin crisis, which involved long delays in informing the public. Because it is difficult to observe the government increasing food safety, the government's ability to facilitate transactions by providing safety depends on its reputation for being able to do so. Repeated discovery that products the government claimed were safe were actually dangerous will damage the government's reputation. Consumer polls suggest that many EU consumers lack trust in government authorities to assure them of food safety and have more confidence in consumer associations (Eurobarometre 49). The

demands for safe, high quality foods produced in a socially optimal way are already beginning to manifest themselves in policy changes.

Consumer Information

Many products in the EU are voluntarily labeled. For instance, consumer preferences for foods produced in an environmentally benign way, or that are based on humane treatment of animals, can be targeted through labeling, and many firms have incentives to use this as an advertising feature. In some cases, European governments have attempted to provide information through laws that require labeling. Cases of required labeling in the EU include labeling of foods for additives and labeling for nut content. Because the EU has not yet mandated comprehensive U.S.- style nutrition labeling, the EU Consumer's Committee has recommended nutrition labeling to add to consumer information and choice (Consumer Committee comments 12/98).

Also under the heading of consumer information, the European Commission has undertaken an EU-wide food safety campaign, mostly in the form of consumer education about handling practices (FAS GAIN Report, 1998). The EU is also trying to use consumer associations in designing the campaign and as advisors to the public. The establishment of national food safety agencies has been proposed in the current legislative agendas in Britain and France.

The EU has also mandated labeling for foods that contain crops produced with biotechnology. Genetically engineered varieties must cross three hurdles to be sold in the EU: labeling, acceptance by consumers, and EU Commission approval. As of September 1998, EU firms have been required to label any foods that contain modified DNA or proteins from crops produced with biotechnology (see Council Regulation (EC) 1139/98). Surveys indicate that most EU consumers desire such labeling (table 17).

Although EU labeling law has been in effect for over 1 year, the EU has only recently (October 1999) proposed a minimum threshold for mandatory labeling of 1 percent of the bioengineered content of each ingredient in a product. Even if a product is initially not a genetically engineered variety, intermingling of even small amounts—which could result, for instance, if the conventional product is transported in the same trucks previously used for a bioengineered variety—could cause the product to test positive for the presence of bioengineered crops and to therefore need to be labeled. The lack of standardized testing for bioengineered crop content can also produce inconsistencies in test results. There is also some confusion over which processed products contain modified DNA or proteins and which do not.[15]

The extent to which labeling crops produced with biotechnology, and the food products that contain them, and the adverse consumer reaction to such products affect U.S. trade is uncertain. Crops for which there are currently varieties produced with biotechnology, largely soybeans and corn, are mostly exported to the EU for animal feed, and only a portion of soy and corn byproducts is used in processed foods. Retailers, regulators, and consumer groups have interpreted the regulations to mean that some byproducts probably do not have to be labeled, because they do not contain modified DNA or proteins.[16] However, concern about consumer demand, and the possibility of increasing market share by developing a differentiated product, has prompted retailers to look beyond the legal requirements.[17]

Some supermarket chains, food processors and restaurants in the EU are attempting to eliminate biotech ingredients. One processor cited a drop in sales and another noted an increase in calls to consumer helplines as factors influencing their decisions (London Times, 4/28/99; Reuters, 4/20/99). Some food processors are attempting to eliminate from their food products all byproducts from biotech crops (even those that need not be labeled according to retailers' interpretation of the law) , suggesting that the EU standards for labeling fail to satisfy some EU consumers.

To accomplish this, some European food processors have either removed soy and corn from their foods, or they have been ordering conventionally grown soybeans from some growers in Canada and the United States and from Brazil. Soybeans, however, are an important source of protein for livestock. If Brazil approves genetically engineered soybeans for commercial production, it will be difficult for the EU to obtain conventional soy in the quantities needed for all uses. In 1997, the EU purchased 94 percent of its soybean imports from the United States, Brazil, and Argentina (also a producer of genetically engineered soybeans), and 98 percent of its soybean meal from these same three countries.[18] EU processors will need to pay premia for soy grown from conventional varieties and identity-preserved throughout the handling, distribution, and shipping process. Some processors have already paid premia for identity-preserved conventional varieties.

In addition to consumer concerns, the problem that the EU has not approved some varieties of crops produced with biotechnology is also worrisome for U.S. exporters. The EU has a lengthy approval process for testing and cultivation of crops produced with biotechnology in the EU and also for sale for import and final consumption (see Regulation 258/97 and Regulation (EC) 90/220) . In 1998, a number of varieties of genetically engineered corn approved and grown in the United States had not yet been approved by the EU. The approval process has slowed even more (no new approvals have been made since April 1998), and the EU does not plan on approving any new varieties in the near

[15] Information from discussions with a retail firm.

[16] Discussions with retailers, MAFF official, newspaper articles.
[17] Conversation with Prof. Maury Bredahl.
[18] Source: EU Eurostat trade data.

Table 19--Importance of EU market for U.S. exports of selected crops and products having genetically modified varieties, 1997

Products from crops having transgenic varieties	Value of U.S. exports to EU	Share of total U.S. agricultural exports to EU	Share of U.S. exports of the given product	Share of U.S. total agricultural exports	Share of total EU imports of product1/
	Million $		Percent		
Soybeans	2,472.7	27.16	33.51	4.32	54.34
Soybean oil	3.7	0.04	0.63	0.01	1.64
Soybean meal	371.8	4.08	19.94	0.65	10.05
Corn	191.0	2.10	3.69	0.33	61.56

1 / EU product categories differ slightly from those used to generate other columns.

Sources: U.S. FATUS Trade data; Eurostat EU Trade data.

future, as it is planning on revising its laws (BBC News, June 25, 1999). Additionally, some EU countries have banned the import of some genetically modified crops, despite EU approval (Reuters, 10/5/98).

Even if imports are allowed, cultivation of genetically engineered crops is very controversial. Trial plots of transgenic crops have been vandalized in Great Britain, and France has declared a partial moratorium on cultivation of genetically engineered crops (Chemical Week, 12/9/98). If EU farmers are denied access to crop varieties produced with biotechnology, production in the EU will be affected, and thereby trade. If genetically engineered seeds turn out to be lower in cost to cultivate, costs of production of conventional crops in the EU could remain higher than they would be with genetically engineered seeds, giving exporters such as the United States an advantage in sales to third countries. The higher relative cost of grain to EU livestock producers could also affect the competitiveness of EU meat exports.

Product Regulation

Another way in which EU governments are regulating products in the food chain is through the development and enforcement of standards. In theory, one purpose of government-imposed standards is to reduce the costs of transactions by ensuring that all firms that are allowed to market a product have met a set of standards, so that consumers no longer need to search, producers no longer need to signal, and uncertainty is reduced (Bredahl 1998). However, in practice, standards can also increase costs as firms and the government must undergo the expense of compliance, verification, and enforcement of the standards.

Regulations aimed at food safety and quality could expose the EU to challenges of those policies that do not meet the conditions set forth in the Agreements on Sanitary and Phytosanitary Measures (SPS) and on Technical Barriers to Trade (TBT),[19] especially if requiring conformity to local product standards has the effect of unfairly excluding foreign goods. As traditional trade barriers like tariffs decline, these non-tariff barriers take on greater importance in influencing trade flows, and are likely to spawn more trade conflicts.

When trading partners have different product standards, trade conflicts can arise. Trading partners may question whether a product safety standard 1) actually reflects safety concerns, and 2) represents the least trade-distorting method of dealing with the consumer information concerns. In the EU, consumer groups and domestic producers have sometimes joined forces to press for product regulations that will exclude imports that don't have to meet domestic standards, as when German environmental groups and automakers joined together to demand catalytic converter requirements for cars sold in the EU (Vogel, 1995). This phenomenon can make it difficult to discern whether consumer concern, desire to protect the domestic market, or both provide the motivation for the regulation.

The EU's ban on beef from hormone-treated cattle is an example of a product standard policy that has had a significant trade impact. The WTO has ruled that the ban is inconsistent with the EU's obligations under the WTO, and that the EU must allow the import of the beef. The EU has refused to bring its policy into compliance with the ruling, and the United States and Canada have been authorized to withdraw negotiated trade concessions. The EU has also begun to impose severe limits on the use of some antibiotics in raising livestock. If a country imposes costly restrictions on its own producers, costs rise for its firms. The domestic products could be at a disadvantage, giving rise to pressure to enact protectionist legislation.

Process Regulation

Process standards in the EU include, among others, regulations regarding environmental effects of agriculture, production of organic food, and animal welfare. Process standards are sometimes negatively contrasted to standards for the final product, because, while process standards are one way to achieve social goals, they can, in some cases, have the effect of arbitrarily banning equally safe production techniques. Additionally, process standards require enforcement at the site of production, which is costly and difficult to monitor. In contrast, product standards allow any production technique that results in a product of a given quality, but requires inspection of the final product, which also may or

[19] Under the SPS Agreement, WTO members agreed to guidelines governing the use of measures to protect human, animal, and plant life and health from foreign pests, diseases, and contaminants. The TBT Agreement sets forth disciplines on the use of standards (including labeling requirements), testing and certification procedures, and other non-tariff barriers that can create obstacles to trade.

may not occur.

The EU strictly regulates food processing. For example, all livestock producers must use a prescribed set of standardized meat-handling procedures. Under the EU's Third Country Meat Directive, livestock processing plants in non-EU countries must adhere to EU standards in order to ship product to the EU. The EU blocked the import of some meat products because production processes did not conform to EU specifications, even though the goods themselves could be just as safe. A recently-concluded (July 1999) veterinary equivalency agreement between the EU and the United States (similar agreements have been concluded or are being negotiated with other countries) establishes a framework recognizing equivalency between U.S. and EU sanitary measures. Both partners made a commitment to facilitate trade by reviewing the other party's export requirements.

The BSE crisis has led to stricter regulation of livestock production within the EU. Since the theorized route of transmission of the disease was via feeding meat and bone meal to cattle, such feeding practices have been banned. Other steps were taken to reduce the spread of the disease, including banning the sale of all cattle born before June 1996 and selective slaughtering of suspect cattle. The export of British beef was banned for several years, and the ban has only recently been lifted.

Some EU policies that influence production processes fall outside of the regulatory sphere. The CAP previously emphasized payment per unit of output, thereby encouraging intensive agriculture and the use of pesticides and fertilizers (Consumer Committee comments 12/98). The expense of the CAP's per unit payment scheme has put more pressure on the EU to move CAP reform away from emphasis on yields. In 1992, the EU reformed the CAP to rely less on per unit payments and more on direct payments. The CAP reforms adopted under Agenda 2000 would continue this shift toward partially decoupled payments to farmers, some of which might be linked to use of environmentally safer farming practices. If payments to farmers for using more environmentally friendly techniques were fully decoupled, they would meet the objectives of both environmental groups and those reformers who would like to reduce the overproduction associated with the CAP.

The 1992 reform also allowed member state governments to have programs that compensate farmers for "ecologically sound farming." Currently, farms involving 30 percent of Germany's acreage and 100 percent of Austria's acreage participate (Weingarten and Frohberg, 1997). In 1997, the Danish government formulated a plan to reduce pesticide use by 50 percent, and began considering a ban on pesticides (*Chemical Week*, 6/4/97). EU standards for pesticides and fertilizer in water are strict (Weingarten and Frohberg, 1997).

Other environmental policies focus on organic production. While the demand for organic food is increasing, organic production costs are high. Additionally, farmers must refrain from applying pesticide to the land for 3 years in order for the produce to be considered organic. This requirement gives a farmer 3 years of high-cost, non-chemical farming without being able to cash in on the organic premium. Thus, greater demand for organic produce mostly raises prices, with only some increase in supply. However, Germany, Austria, Sweden, and Denmark intend to have 10 percent of their farmland organic by next year (*London Independent*, 3/8/99). Some EU governments have subsidized conversion to organic production and production itself (Weingarten and Frohberg, 1997, Michelsen, 1996).

Some U.S. producers may benefit from increased European demand for organic produce. Austria, for instance, is importing some organic rice, nuts, fruits and avocados from the United States (FAS). Increased European demand for processed and prepared food could open up opportunities for exports of organic frozen meals based on organic products produced in the United States (see *Frozen Food Age*, 1/96).

During the late 1980s, European countries, including those from outside the EU, signed a small flurry of internal treaties dealing with animal welfare, and regulating transport of animals and pets. Now, the European Union has decided to ban by 2012 the use of hen cages that are less than 750 sq. cm, where the current size is 450 sq. cm. (EU Council Directive 1999/74/EC, July 19, 1999). Such concerns are a possible area of trade conflict, if these production requirements are translated into requirements on imports, and the EU's trading partners lack similar regulations.

The EU has made clear that it intends to pursue a program of agricultural policies based on a recognition of the "roles agriculture plays in the economy, in the environment, in society, and in preserving the countryside," a concept widely referred to as multifunctionality (EU DGVI web site). The EU will seek to maintain farming throughout Europe, to safeguard farmers' incomes to preserve a viable agricultural sector, and to provide compensation where necessary for "natural constraints and disadvantages." Such a program could put the EU's policies in conflict with those of countries seeking greater disciplines on the provision of trade-distorting support to agriculture. The Uruguay Round Agreement encourages these countries to provide support to meet their agricultural objectives using less-distorting, or "green box", policies, where payments are not linked to production quantities or prices.

Implications of Agenda 2000

Food quality and safety regulations will likely have little short-term impact on the outcome of Agenda 2000 reforms for grains. Food quality and safety regulations, by raising costs to domestic producers, have the potential to change competitive conditions. However, if the EU market remains insulated from competition, the net effect of the policies may be small. Currently, the grain support price cuts are

projected to allow only wheat to be exported without subsidies. Food safety policies relating to the import and cultivation of biotech varieties will have little impact on wheat because no transgenic variety is commercially available for wheat. EU corn producers are not likely to be greatly affected by changes in competitive conditions caused by restrictions on biotech varieties, as the EU currently exports little corn, and corn exports are not expected to expand significantly even after support price cuts. Furthermore, EU corn producers will continue to be protected by market access barriers protecting grains.

With respect to nutrition, a number of consumer advocates have pointed out that the CAP contravenes the advice of the latest medical findings, which emphasize the need for increased vegetable and fruit consumption. Import restrictions and encouraged market withdrawals raise the cost of vegetables and fruits to the consumer (Consumer Committee comments 12/98; Lobstein, l998). These policies are not addressed by Agenda 2000.

The growing influence of consumers in agricultural policy is evidenced by the EU Commission's acknowledgment that one motivation for CAP reform is to address consumer concerns (EU DG-VI web site). The CAP has been criticized for its cost and its large share of the EU budget, for contributing to pollution and the spread of animal diseases by promoting intensive agriculture and overproduction, and for failing to ensure the economic health of small farms. Support price cuts for grains and beef may discourage some of the overuse of chemicals and undesirable practices associated with intensive livestock production. Provisions for promoting less intensive production of livestock and other "agri-environment" measures could help meet environmental objectives. Finally, targeting of structural funds to areas in greatest need is an attempt to direct funds based on development objectives and farm income equality goals.

Conclusions

The EU has undertaken a number of policy reforms in areas of concern to consumers: pathogens, pesticides, livestock production, and crops produced with biotechnology. Farmers are increasingly being required to adapt their production practices in light of growing concerns with animal welfare and the environment. Some of these regulations have led to policy changes that have created trade conflicts and may continue to so. Trade disputes over beef treated with hormones, crops produced with biotechnology, and a host of other issues have already occurred between the EU and its trading partners. Other policies, particularly those aimed at reducing the intensity of production and encouraging production practices that are less harmful to the environment, could help address the problem of chronic overproduction and thereby contribute to easing trade tensions.

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